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BANNER & WITCOFF, LTD.			EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/646,472	WAKEAM ET AL.
	Examiner	Art Unit
	Chelcie Daye	2161

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 17 October 2007.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 7-12 and 19-30 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 7-12 and 19-30 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date 10/19/07.

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application
 6) Other: _____

DETAILED ACTION

1. This action is issued in response to applicant's RCE filed on October 17, 2007.
2. Claims 7-12 and 19-30 are presented. No claims added and claims 1-6 and 13-18 remain cancelled.
3. Claims 7-12 and 19-30 are pending.
4. Applicant's arguments filed August 27, 2007, have been fully considered but they are not persuasive.

Continued Examination Under 37 CFR 1.114

5. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 17, 2007 has been entered.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
7. Claims 10-11, 22-23, and 28-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s)

contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In particular, the newly amended claims recite the prohibition of “a parental status change”. The current applications specification discusses the collision criteria forbidding re-parenting of leaf nodes, however, the description is not as detailed with the specifics of a status change for the parent being prohibited. As such, the newly added amendment is lacking the appropriate support.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. **Claims 7, 9-12, 19, and 21-24, are rejected under 35 U.S.C. 103(a) as being unpatentable over Holenstein (US Patent Application No. 20020133507) filed on March 29, 2002, in view of Neeman (US Patent No. 5,588,147) filed January 14, 1994, and further in view of “Robust Annotation Positioning in Digital Documents”, by Gupta, Brush, Bargeron, and Cadiz, Published on September 22, 2000, referred to as “Gupta” hereinafter.**

Regarding Claims 7 and 19, Holenstein discloses a method of reconciling a first data structure stored on a computer readable medium with a second data structure stored on a computer readable medium, comprising:

determining which node of the second data structure has received a change from a corresponding node in the first data structure (Fig.1; [0025], lines 1-6, Holenstein)¹; and

for each node in the second data structure determined to have received a change from a corresponding node in the first data structure (Fig.1; [0027], lines 1-4, and [0036], lines 1-2, Holenstein)², attempting to access the corresponding node in the first data structure ([0052-0053], Holenstein); when the corresponding node in the first data structure is inaccessible, preventing the change from occurring in the second data structure ([0157], lines 10-19, Holenstein). Holenstein's replication system does recognize that while performing dual writes and having to reconcile data structures collisions will occur. However, Holenstein is silent with respect to, when the corresponding node in the first data structure is accessible, determining, that the change to the second data structure creates a discretionary collision. On the other hand, Neeman discloses when the corresponding node in the first data structure can be accessed, determining, that the change to the second data structure creates a discretionary collision (column

¹ Examiner Notes: Fig.1 shows data structures 14 and 26, wherein the data structures have nodes 12 and 24. The collector "reads" (i.e. determines) the changes between the corresponding nodes.

² Examiner Notes: The consumer "applies" (i.e. accesses) the changes passed from the collector, which comes from the first data structure and passed to the second data structure. The transaction receiver verifies that the information was received from the corresponding data structure.

8, lines 31-36, Neeman). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Neeman's teachings into the Holenstein system. A skilled artisan would have been motivated to combine as suggested by Neeman at columns 5 and 6, lines 66-67 and 1-6, in order to provide load balancing by having more than one copy of an object stored across the system and availability by allowing multiple copies of important objects to be distributed across the system. As a result, by recognizing the possible collisions, it increases the fault resilience of the system. Therefore, the combination of Holenstein in view of Neeman, disclose when the change to the second data structure creates a discretionary collision, determining whether the discretionary collision is forbidden by collision criteria (column 8, lines 21-31, Neeman),

when the discretionary collision is not forbidden by the collision criteria, making the change to the corresponding node in the first data structure (column 8, lines 37-47, Neeman),

when the discretionary collision is forbidden by the collision, preventing the change from occurring ([0010] and [0099], Holenstein). However, the combination of Holenstein in view of Neeman, are silent with respect to the collision criteria prohibiting ink strokes from being removed from a leaf node below a pinned node. On the other hand, Gupta discloses the collision criteria prohibiting ink strokes from being removed (pg.7, [5.3.1], lines 5-8, Gupta) from a leaf node below a pinned node (pg.4, [3.2], line 12, Gupta). It would have been obvious to one of ordinary skill in the art at the time of the invention to

incorporate Gupta's teachings into the Holenstein in view of Neeman system. A skilled artisan would have been motivated combine as suggested by Gupta at page 2, column 2 lines 13-17, in order to limit where a stroke can be placed or either drop strokes when documents are changed, which ultimately enhances the performance of the system.

Regarding Claims 9 and 21, the combination of Holenstein in view of Neeman, and further in view of Gupta, disclose the method further comprising identifying nodes in the first data structure for which a change to the second data structure (Fig.1; [0025], lines 1-6, and [0036], lines 1-2, Holenstein) creates a collision to a software application maintaining the first data structure ([0134], lines 1-5, Holenstein).

Regarding Claims 10 and 22, the combination of Holenstein in view of Neeman, and further in view of Gupta, disclose the method wherein the collision criteria:

prohibits ink strokes from being added (pg.7, [5.3.1], lines 5-8, Gupta)³ to a leaf node below the pinned node (pg.4, [3.2], line 12, Gupta)⁴,

³ Examiner Notes: "Same" means when the text does not move or change; this corresponds to no modifications such as adding or removing of other nodes. Also, ink strokes can be represented as nodes and nodes can be represented as ink strokes.

⁴ Examiner Notes: Anchor text is the text, which identifies the nodes position (pg.4, [3.2.1], lines 1-2, Gupta). The anchor text corresponds with pinned node, because the anchored text is unchangeable.

prohibits adding (pg.7, [5.3.1], lines 5-8, Gupta) leaf nodes below the pinned node (pg.4, [3.2], line 12, Gupta),
prohibits removing (pg.7, [5.3.1], lines 5-8, Gupta) leaf nodes below the pinned node (pg.4, [3.2], line 12, Gupta), and
prohibits a parental status change (pg.6, [5.1.1] and pg.7, [5.3.1], Gupta) of leaf nodes below the pinned node (pg.4, [3.2], line 12, Gupta).

Regarding Claims 11-12 and 23-24, the combination of Holenstein in view of Neeman, and further in view of Gupta, disclose the method wherein the collision criteria:

allows late ink strokes to be added to a leaf node below the pinned node under specified conditions (pg.7, [5.3.3], lines 1-3 and 9-14, Gupta)⁵,
prohibits adding (pg.7, [5.3.1], lines 5-8, Gupta) leaf nodes below the pinned node (pg.4, [3.2], line 12, Gupta),
prohibits removing (pg.7, [5.3.1], lines 5-8, Gupta) leaf nodes below the pinned node (pg.4, [3.2], line 12, Gupta), and
prohibits a parental status change (pg.6, [5.1.1] and pg.7, [5.3.1], Gupta) of leaf nodes below the pinned node(pg.4, [3.2], line 12, Gupta).

10. Claims 8 and 20, are rejected under 35 U.S.C. 103(a) as being unpatentable over Holenstein (US Patent Application No. 20020133507) filed on March 29, 2002,

in view of Neeman (US Patent No. 5,588,147) filed January 14, 1994, further in view of "Robust Annotation Positioning in Digital Documents", by Gupta, Brush, Bargeron, and Cadiz, Published on September 22, 2000, hereinafter referred to as "Gupta", and further in view of Fujihara (US Patent Application No. 20020191452) published December 19, 2002.

Regarding Claims 8 and 20, the combination of Holenstein in view of Neeman, and further in view of Gupta, disclose all of the claimed subject matter as stated above. However, the combination of Holenstein in view of Neeman, and further in view of Gupta, are silent with respect to deleting empty nodes from the first data structure. On the other hand, Fujihara discloses deleting empty nodes from the first data structure ([0116-0117], Fujihara)⁶. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Fujihara's teachings into the Holenstein, Neeman, and Gupta system. A skilled artisan would have been motivated to combine as suggested by Fujihara at paragraphs [0015-0017], in order to maintain and manage a plurality of data structures more efficiently. As a result of the maintenance and management the data structure will be assured to have the least amount of traffic and calculation time.

⁵ Examiner Notes: The changing of nodes in the updated document is considered "late" because the modification was not done in the original.

11. Claims 25 and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holenstein (US Patent Application No. 20020133507) filed on March 29, 2002, in view of Souder (US Patent No. 5,806,074) filed on March 19, 1996, further in view of Neeman (US Patent No. 5,588,147) filed January 14, 1994, and further in view of further in view of “Robust Annotation Positioning in Digital Documents”, by Gupta, Brush, Bargeron, and Cadiz, Published on September 22, 2000, hereinafter referred to as “Gupta”.

Regarding Claim 25, Holenstein discloses a system comprising:
a first memory for storing a first data structure ([0051-0052], Holenstein);
a second memory for storing a second data structure ([0051-052],
Holenstein);
a processor for executing instructions stored on one or more computer readable media for performing a method of reconciling the first data structure stored in the first memory with a second data structure stored in the second memory ([0241], Holenstein), the method including:
determining which node of the second data structure has received a change from a corresponding node in the first data structure (Fig. 1; [0025], lines 1-6, Holenstein)⁷;

⁶ Examiner Notes: Further explanations about the node being empty if label with 0 (nil) can be found within paragraph [0084].

⁷ Examiner Notes: Fig. 1 shows data structures 14 and 26, wherein the data structures have nodes 12 and 24. The collector “reads” (i.e. determines) the changes between the corresponding nodes.

for each node in the second data structure determined to have received a change from a corresponding node in the first data structure (Fig.1; [0027], lines 1-4, and [0036], lines 1-2, Holenstein)⁸,

attempting to access the corresponding node in the first data structure ([0052]-[0053], Holenstein);

when the corresponding node in the first data structure is inaccessible, preventing the change from occurring in the second data structure ([0157], lines 10-19, Holenstein). However, Holenstein is silent with respect to, when the corresponding node in the first data structure is accessible, determining, that the change to the second data structure creates a mandatory collision. On the other hand, Souder discloses when the corresponding node in the first data structure can be accessed, determining, that the change to the second data structure creates a mandatory collision (column 11, lines 8-36, Souder). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Souder's teachings into the Holenstein system. A skilled artisan would have been motivated to combine as suggested by Souder at column 5, lines 17-45, in order to present a system that allows configurable conflict resolution, which includes detection and resolution of update, uniqueness, and delete conflicts. Therefore, the combination of Holenstein in view of Souder, disclose preventing the change from occurring ([0010] and [0099], Holenstein).

⁸ Examiner Notes: The consumer "applies" (i.e. accesses) the changes passed from the collector, which comes from the first data structure and passed to the second data structure. The transaction receiver verifies that the information was received from the corresponding data structure.

However, the combination of Holenstein in view of Souder, are silent with respect to when the corresponding node in the second data structure is accessible, determining, that the change to the second data structure creates a discretionary collision. On the other hand, Neeman discloses when the corresponding node in the second data structure is accessible, determining, that the change to the second data structure creates a discretionary collision (column 8, lines 31-36, Neeman). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Neeman's teachings into the Holenstein and Souder system. A skilled artisan would have been motivated to combine as suggested by Neeman at columns 5 and 6, lines 66-67 and 1-6, in order to provide load balancing by having more than one copy of an object stored across the system and availability by allowing multiple copies of important objects to be distributed across the system. As a result, by recognizing the possible collisions, it increases the fault resilience of the system. Therefore, the combination of Holenstein in view of Souder, and further in view of Neeman, disclose when the change to the second data structure creates a discretionary collision, determining that the discretionary collision is forbidden by collision criteria (column 8, lines 21-31, Neeman), when the discretionary collision is not forbidden by the collision criteria, making the change to the corresponding node in the first data structure (column 8, lines 37-47, Neeman), and when the discretionary collision is forbidden by the collision criteria, preventing the change from occurring ([0099], Holenstein). However, the combination of Holenstein in view of Souder, and

further in view of Neeman, are silent with respect to the collision criteria prohibiting ink strokes from being removed from a leaf node below a pinned node. On the other hand, Gupta discloses the collision criteria prohibiting ink strokes from being removed (pg.7, [5.3.1], lines 5-8, Gupta) from a leaf node below a pinned node (pg.4, [3.2], line 12, Gupta). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Gupta's teachings into the Holenstein, Souder, and Neeman system. A skilled artisan would have been motivated combine as suggested by Gupta at page 2, column 2 lines 13-17, in order to limit where a stroke can be placed or either drop strokes when documents are changed, which ultimately enhances the performance of the system.

Regarding Claim 27, the combination of Holenstein in view of Souder, further in view of Neeman, and further in view of Gupta, disclose the method further comprising identifying nodes in the first data structure for which a change to the second data structure (Fig.1; [0025], lines 1-6, and [0036], lines 1-2, Holenstein) creates a collision to a software application maintaining the first data structure ([0134], lines 1-5, Holenstein).

Regarding Claim 28, the combination of Holenstein in view of Souder, further in view of Neeman, and further in view of Gupta, disclose the method wherein the collision criteria:

prohibits ink strokes from being added (pg.7, [5.3.1], lines 5-8, Gupta)⁹ to a leaf node below the pinned node (pg.4, [3.2], line 12, Gupta)¹⁰, prohibits adding (pg.7, [5.3.1], lines 5-8, Gupta) leaf nodes below the pinned node (pg.4, [3.2], line 12, Gupta), prohibits removing (pg.7, [5.3.1], lines 5-8, Gupta) leaf nodes below the pinned node (pg.4, [3.2], line 12, Gupta), and prohibits a parental status change (pg.6, [5.1.1] and pg.7, [5.3.1], Gupta) of leaf nodes below the pinned node (pg.4, [3.2], line 12, Gupta).

Regarding Claims 29-30, the combination of Holenstein in view of Souder, further in view of Neeman, and further in view of Gupta, disclose the method wherein the collision criteria:

allows late ink strokes to be added to a leaf node below the pinned node under specified conditions (pg.7, [5.3.3], lines 1-3 and 9-14, Gupta)¹¹, prohibits adding (pg.7, [5.3.1], lines 5-8, Gupta) leaf nodes below the pinned node (pg.4, [3.2], line 12, Gupta), prohibits removing (pg.7, [5.3.1], lines 5-8, Gupta) leaf nodes below the pinned node (pg.4, [3.2], line 12, Gupta), and

⁹ Examiner Notes: "Same" means when the text does not move or change; this corresponds to no modifications such as adding or removing of other nodes. Also, ink strokes can be represented as nodes and nodes can be represented as ink strokes.

¹⁰ Examiner Notes: Anchor text is the text, which identifies the nodes position (pg.4, [3.2.1], lines 1-2, Gupta). The anchor text corresponds with pinned node, because the anchored text is unchangeable.

¹¹ Examiner Notes: The changing of nodes in the updated document is considered "late" because the modification was not done in the original.

prohibits a parental status change (pg.6, [5.1.1] and pg.7, [5.3.1], Gupta) of leaf nodes below the pinned node(pg.4, [3.2], line 12, Gupta).

12. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Holenstein (US Patent Application No. 20020133507) filed on March 29, 2002, in view of Souder (US Patent No. 5,806,074) filed on March 19, 1996, further in view of Neeman (US Patent No. 5,588,147) filed January 14, 1994, further in view of further in view of “Robust Annotation Positioning in Digital Documents”, by Gupta, Brush, Bargeron, and Cadiz, Published on September 22, 2000, hereinafter referred to as “Gupta”, and further in view of Fujihara (US Patent Application No. 20020191452) published December 19, 2002.

Regarding Claim 26, the combination of Holenstein in view of Souder, further in view of Neeman, and further in view of Gupta, disclose all of the claimed subject matter as stated above. However, the combination of Holenstein in view of Souder, further in view of Neeman, and further in view of Gupta, are silent with respect to deleting empty nodes from the first data structure. On the other hand, Fujihara discloses deleting empty nodes from the first data structure ([0116-0117], Fujihara)¹². It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Fujihara's teachings into the Holenstein, Souder, Neeman, and Gupta system. A skilled artisan would have

been motivated to combine as suggested by Fujihara at paragraphs [0015-0017], in order to maintain and manage a plurality of data structures more efficiently. As a result of the maintenance and management the data structure will be assured to have the least amount of traffic and calculation time.

Response to Arguments

Applicant's argument with respect to newly amended claim 11 has been considered but is moot in view of the new ground(s) of rejection.

Applicant argues, Gupta fails to teach features related to collision criteria that prohibit ink strokes from being removed from a leaf node below a pinned node.

Examiner respectfully disagrees. Gupta discusses anchor text, which is the information used to position an annotation (marking made on a document at a particular place - i.e., ink strokes) in the document, and in particular how the anchor text does not change. Gupta's annotations are attached to text that does not move or change. Therefore, when the text doesn't move the system finds the entire annotation anchor text in the new document (see paragraph 5.3.1). As such, because the annotations do not change there can be no removal of such ink strokes. As a result, Gupta does in fact read upon the above-argued limitation.

¹² Examiner Notes: Further explanations about the node being empty if label with 0 (nil) can be found within paragraph [0084].

Points of Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chelcie Daye whose telephone number is 571-272-3891. The examiner can normally be reached on M-F, 7:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Apu Mofiz can be reached on 571-272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chelcie Daye
Patent Examiner
Technology Center 2100
December 12, 2007



SANA AL-HASHEMI
PRIMARY EXAMINER